



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/512,978 02/24/00 KERR

R MI22-1343

EXAMINER

021567 MMC2/0904
WELLS ST JOHN ROBERTS GREGORY AND MATKIN
SUITE 1300
601 W FIRST AVENUE
SPOKANE WA 99201-3828

CAS. P.
ART UNIT

PAPER NUMBER

2814
DATE MAILED:

09/04/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/512,978

Applicant(s)

Kerr et al.

Examiner

Phat X. Cao

Art Unit

2814



– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 24, 2000
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4-8 20) ☐ Other:

Art Unit: 2814

DETAILED ACTION

1. The cancellation of claims 9-49 in Paper No. 2 is acknowledged.

Claim Objections

2. Claim 5 is objected to because of the following informalities: in claim 5, line 3, a phrase "conductive material" should be changed to "a conductive material". Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mano (US. 5,814,886) in view of Wolf (Vol. 3).

Mano discloses in Fig. 3 an integrated circuit comprising: a conductive line G2 received over a semiconductive substrate; a diffusion region within the substrate proximate the line and disposed directly under conductive portions of the conductive line G2; and a conductive material C1 made of metal received over the line and interconnecting it with the diffusion region.

Art Unit: 2814

Mano does not specifically disclose that the diffusion region and substrate forming a reverse biased pn junction for selected magnitudes of current provided through the conductive line.

However, Wolf teaches the obviousness of using n and p dopants in four different MOSFETs configurations, formation of pn junction and reverse biasing a pn junction of the diffusion region and the substrate by selectively apply magnitudes of voltage provided through the conductive gate line of MOSFET (see Fig. 4-2 on page 137 and related text, on page 136, section 4.1.1). Accordingly, it would have been obvious to form a reverse biased pn junction between the diffusion region and the substrate for selected magnitudes of voltage on current provided through the conductive gate line because according to Wolf, this is a basis operation of a MOS transistor when the transistor is in OFF mode (also see Fig. 4-2 and section 4.1.1).

5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over En et al (US. 5,990,524) in view of Wolf (Vol. 3).

En et al disclose in Fig. 4 an integrated circuit comprising: a conductive line 16 received over a semiconductor substrate 12; a diffusion region 24b within the substrate proximate the line and disposed directly under conductive portions of the conductive line 16; and a conductive material 50 made of metal received over the line 16 and interconnecting it with the diffusion region 24b.

Art Unit: 2814

En et al does not specifically disclose that the diffusion region and the substrate forming a reversed biased pn junction for selected magnitudes of current provided through the conductive line.

However, Wolf teaches the obviousness of using n and p dopants in four different MOSFETs configurations, formation of pn junction and reverse biasing a pn junction of the diffusion region and the substrate by selectively apply magnitudes of voltage provided through the conductive gate line of MOSFET (see Fig. 4-2 on page 137 and related text, on page 136, section 4.1.1). Accordingly, it would have been obvious to form a reverse biased pn junction between the diffusion region and the substrate for selected magnitudes of voltage on current provided through the conductive gate line because according to Wolf, this is a basis operation of a MOS transistor when the transistor is in OFF mode (also see Fig. 4-2 and section 4.1.1).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phat X. Cao whose telephone number is (703) 308-4917. The Examiner can normally be reached on Monday through Thursday. If attempts to reach the Examiner by telephone are unsuccessfully, the Examiner's supervisor, Olik Chaudhuri, can be reached on (703) 306-2794.

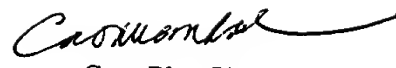
Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. Group 2800 fax number is (703) 308-7722 or (703) 308-7724.

Application/Control Number: 09/512,978

Page 5

Art Unit: 2814

PC
August 24, 2001


Cao, Phat X.
Patent Examiner
Technology Center 2800